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SUPREME COURT, U.S.

No. 121, Original

In The

Supreme Court of the United States

October Term, 1994

STATE OF LOUISIANA,

Plaintiff,

v.

STATE OF MISSISSIPPI, et al.,

Defendants.

FINAL REPORT OF THE SPECIAL MASTER

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FINAL REPORT OF THE SPECIAL MASTER

The State of Louisiana commenced this original jurisdiction action on August 6, 1993, by filing its motion for leave to file a complaint against the State of Mississippi and a family group of property owners who are here called the "Houston Group."[1] By the complaint and other pleadings, the parties ask the Court to define the State boundary between Louisiana and Mississippi for a length of about seven miles along the Lake Providence Reach of

[1] Louisiana's Complaint identifies the non-State Defendants, the Houston Group, as follows: Julia Donelson Houston, Ruth Houston Baker and Hines H. Baker, Jr., Co-Executors and Co-Trustees of the Estate of George T. Houston, a/k/a George T. Houston, III, deceased, adult residents and citizens of Mississippi, and Ruth Houston Baker, individually, an adult domiciled in Harris County, Texas. The non-State Defendants pronounce their family name "Hów-stun."

the Mississippi River in the vicinity of Lake Providence, Louisiana. They also, as a related matter, ask the Court to settle, solely as between the State of Louisiana and the Houston Group, a controversy over title to an elongated piece of land (here called the "Disputed Area"), now about 2,000 acres in area and nearly seven miles in length, that lies along the Louisiana bank of the river.

The Disputed Area is bounded on the west by what the State of Mississippi and the Houston Group (the "Mississippi Parties") claim as the State boundary,[2] and on the east by the main downstream navigation channel, or live thalweg, of the Mississippi River, which the State of Louisiana now claims to be the State boundary.

After thoroughly reviewing the very extensive record of testimony and exhibits and carefully considering the trial briefs, post-trial memoranda and closing arguments of counsel, I recommend that the Court hold that the Louisiana-Mississippi boundary is located on the line proposed by the Mississippi Parties, and that the Court deny the State of Louisiana's prayer for cancellation of the Houston Group's claim of title to the Disputed Area.

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[2] The State boundary line contended for by the Mississippi Parties is defined in the testimony of their expert witness, Austin B. Smith. This Report will accordingly refer to that proposed boundary as the "Austin Smith Line." That line is identified by 22 points shown on Exhibits P-32D and LA-1A, a full description of the line by latitude-longitude calls being set forth in Appendix A to this Report.

I. BACKGROUND

A. History of the Related Litigation Brought in the United States District Court, Southern District of Mississippi.

The State boundary issue raised in this case, as well as the title issue between the State of Louisiana and the Houston Group, have previously been tried to judgment in the United States District Court for the Southern District of Mississippi and have been carried on appeal to judgment in the Court of Appeals for the Fifth Circuit.[3] *See Houston v. Thomas*, 937 F.2d 247 (5th Cir. 1991), *reh'g denied*, 947 F.2d 1489 (5th Cir.), *cert. granted in part sub nom. Mississippi v. Louisiana*, 112 S. Ct. 1472, 117 L.Ed.2d 616 (1992), *rev'd in part and remanded in part*, 113 S. Ct 549, 121 L.Ed.2d 466, *on remand*, 984 F.2d 642 (5th Cir. 1993).

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[3] Title to the southern end of Stack Island (by then affixed to the Louisiana bank) was the subject of litigation between the Houstons and U.S. Gypsum Co. that resulted in three reported opinions of the Fifth Circuit. *See Houston v. United States Gypsum Co.*, 569 F.2d 880 (5th Cir. 1978), *on reh'g*, 580 F.2d 815 (5th Cir.), *on appeal after remand*, 652 F.2d 467 (5th Cir. 1981). In that diversity action, commenced in the Southern District of Mississippi in 1973, the Houstons claimed record title to the whole "migrated" Stack Island, while U.S. Gypsum, the owner of the Shipland Plantation along the Mississippi bank opposite Lake Providence, Louisiana, claimed the accretions that formed the southern part of Stack Island. *See id.* The court, which presumed that Stack Island (in this report called the Disputed Area) lay within the State of Mississippi (569 F.2d at 881-82), held that U.S. Gypsum had record title to the Stack Island accretions within Gypsum's north and south boundary lines extended westward to the State boundary (580 F.2d at 817-18), but that the Houstons had acquired title to those southern accretions by adverse possession (652 F.2d at 472-75).

The District Court found in favor of Mississippi on the boundary issue, whereas the Court of Appeals reversed and ordered judgment in favor of Louisiana. On certiorari, however, this Court held that the lower federal courts were without jurisdiction to decide the State boundary question. *See Mississippi v. Louisiana*, 113 S. Ct. 549, 121 L.Ed.2d 466. A review of the history of that related litigation, the outcome of which inspired this original jurisdiction action, is helpful to an understanding of the context of this present action and of the record presented by the parties to the Special Master.

The related litigation, known as *Houston v. Thomas* in the lower courts, was commenced in the federal court in the Southern District of Mississippi on July 29, 1986. The Houston Group, as plaintiffs in that diversity suit to quiet title, claimed ownership of what we now call the Disputed Area and named as defendants one Thomas and certain other Louisiana riparians. The Houston Group claimed that the Disputed Area, although no longer insular in form, was a part of the State of Mississippi because it derived from an island (known as Stack Island or Island No. 94) that was originally located within the bounds of Mississippi, before the river's main navigation channel shifted to the east side of the island. The Houston Group traced record title to "Stack Island" back to an 1888[4] homestead patent from the United States as well as to a 1934 tax foreclosure deed from the State of Mississippi. In

[4] The United States issued its patent for Stack Island to Stephen B. Blackwell in 1888 on the basis of a survey of the island made for the U.S. General Land Office in August 1881. The patent was effective as of 1881.

November 1987 the State of Louisiana,[5] having intervened in the Mississippi federal court action, filed a third-party complaint against the State of Mississippi, asserting that the Disputed Area lay within its State boundaries.

Thereafter, the State of Louisiana unsuccessfully sought a decision by this Court on the Louisiana-Mississippi boundary question. On September 15, 1988, it filed its motion in No. 114 Original for leave to file a complaint against the Mississippi Parties. On December 12, 1988, the Court without opinion denied Louisiana's motion, with Justice White, joined by Justices Stevens and Scalia, dissenting in an opinion. *Louisiana v. Mississippi*, 488 U.S. 990 (1988). On February 27, 1989, the Court denied without opinion Louisiana's motion for rehearing, as well as its alternative motion to file a complaint against the State of Mississippi alone. *Id.*, 489 U.S. 1050 (1989).

In the summer and early fall of 1989, *Houston v. Thomas* went to trial before the Honorable William H. Barbour, Jr., United States District Judge, on a bifurcated basis, first on the boundary issue and then on the title issue. The trial generated a record of 961 pages of testimony by 24 expert and lay witnesses and 209 exhibits, many consisting of historical maps, surveys and charts. In an extensive unreported bench opinion, the District Court

[5] The Lake Providence Port Commission, an entity of the State of Louisiana, joined the State of Louisiana in intervening in *Houston v. Thomas*, but is not a party in this original jurisdiction action.

held in favor of the Mississippi Parties.[6] On the boundary issue, it held that the Disputed Area lay in Mississippi. It found that the boundary thalweg lay west of Stack Island in 1881 when the island was surveyed for patenting purposes; that in the period of 1911 to 1913 the main navigation channel shifted to the east side of Stack Island but that the boundary thalweg remained on the west side; and that in subsequent years Stack Island by progressive accretion and erosion grew and moved to the southwest against the Louisiana bank of the river. The court accepted the opinion of Mississippi's expert witness, Austin B. Smith, that the boundary line should be drawn along the location of the channel between the migrated Stack Island and the Louisiana shore just before the time that water ceased to run through that channel in about 1954. Alternatively on the boundary issue, the District Court held that, under the Doctrine of Acquiescence, the Disputed Area had in any event become part of Mississippi because the State of Louisiana had acquiesced in the exercise by the State of Mississippi of exclusive jurisdiction over the Disputed Area from 1881 to the present. On the title issue, the District Court found the Houston Group to have record title to the Disputed Area, rejecting any claims of the State of Louisiana and of Louisiana riparian owners to title by adverse possession under Mississippi law.

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[6] *See* Judge Barbour's June 23, 1989, bench opinion on the boundary issue in *Houston v. Thomas, reprinted in* Appendix to Pet. for Cert., *Mississippi v. Louisiana* (No. 91-1158) at 19a-43a (hereafter "Barbour Bench Opn."). Judge Barbour's October 2, 1989, bench opinion on the title issue is reprinted in *id.* at 50a-69a.

The State of Louisiana appealed the District Court judgment to the Court of Appeals for the Fifth Circuit. That court on August 5, 1991, reversed the District Court on the boundary issue and entered judgment instead in favor of the State of Louisiana, adjudging the Disputed Area to be within Louisiana. *See Houston v. Thomas*, 937 F.2d at 254. In arriving at that conclusion, the Court of Appeals held that the District Court had committed clear error in its finding of fact that in 1881 the main navigation channel lay west of Stack Island. To the contrary, the Court declared, the evidence established that the main navigation channel lay east of the island at that time, so that by application of the Island Exception the boundary remained frozen on the east side of the island when dike construction by the Mississippi River Commission in 1882-83 shifted the main navigation channel onto the other side.[7] In regard to the District Court's alternative

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[7] In his testimony in *Houston v. Thomas* the State of Louisiana's expert in civil engineeering, potamology and boundary surveys, Hatley N. Harrison, Jr., placed the Louisiana-Mississippi State boundary along a frozen thalweg to the east of the 1881 Stack Island. That proposed boundary (the "Hatley Harrison Line") was identified by Points A through H displayed on Exhibit LA-1A and defined by latitude-longitude calls in Exhibit LA-32F-1. *See* Appendix B for a full description of the Hatley Harrison Line. It lies still farther east from the Disputed Area than the present main navigation channel or live thalweg of the river.

At the conclusion of the supplemental hearings before the Special Master, the State of Louisiana withdrew its support for the Hatley Harrison Line, instead claiming that the State boundary in the vicinity of the Disputed Area lies along the live thalweg of the Mississippi River. *See* volume 5, page 207 of the transcript of the supplemental hearings (hereafter "Sup. Tr.").

ground for holding in favor of Mississippi, the Court of Appeals held that the evidence before the District Court did not establish acts of sufficient duration and magnitude to justify application of the Doctrine of Acquiescence.

This Court granted certiorari on the alternative thalweg and acquiescence questions involved in the boundary issue and formulated a third question: "Did the district court properly assert jurisdiction over respondent's third-party complaint against petitioner State of Mississippi?" *Mississippi v. Louisiana*, 112 S. Ct. 1472, 117 L.Ed.2d 616. The boundary issue was fully briefed and argued orally, along with the jurisdiction question. On December 14, 1992, this Court held unanimously that the District Court lacked jurisdiction over Louisiana's third-party complaint against Mississippi and accordingly vacated the judgment entered by the Fifth Circuit in favor of Louisiana on the boundary issue. *See id.*, 113 S. Ct. 549, 121 L.Ed.2d 466. This Court remanded the balance of the case for inquiry whether further proceedings were required to adjudicate the title issue. *Id.*

In due course the Fifth Circuit remanded the case to the District Court, which on June 11, 1993, stayed further proceedings in *Houston v. Thomas*.

B. Procedural History of This Action.

On August 6, 1993, the State of Louisiana filed its motion for leave to file a complaint against the State of Mississippi and the Houston Group. This Court granted Louisiana's motion on November 1, 1993. *See Louisiana v.*

Mississippi, 114 S. Ct. 377, 126 L.Ed.2d 327 (1993). Louisiana's complaint in this action asks that the Court fix the State boundary along the Mississippi River in the vicinity of Lake Providence, Louisiana, and that the Houston Group's claim of title to the Disputed Area be "cancelled and forever held for naught." On December 1, 1993, the Mississippi Parties[8] filed their answers, the State of Mississippi counterclaiming on the boundary issue. The State of Louisiana filed its answer to Mississippi's counterclaim on February 7, 1994. The Court appointed the undersigned as Special Master on March 7, 1994.

After taking the oath as Special Master, I held the First Meeting of Counsel by telephone conference on March 23, 1994. In a Second Meeting of Counsel held at the United States Courthouse in Vicksburg, Mississippi, on May 5, the parties agreed that they would submit this action to the Court on the record made before Judge Barbour in *Houston v. Thomas*, supplemented with such further testimony and exhibits as the parties might desire. Also on May 5, accompanied by all counsel, I took a view by boat of the Disputed Area, which was then largely flooded, the river standing at about 46 feet above ordinary low water on the Vicksburg gage.

Following the Second Meeting of Counsel, I laid out in a litigation management order (as later amended) a schedule for the conduct of further proceedings before me. On that schedule the parties filed trial briefs and met

[8] The State of Mississippi and the Houston Group have taken identical positions on all issues in this action.

for a Third Meeting of Counsel and final pretrial conference at the John Minor Wisdom U.S. Court of Appeals Building in New Orleans on August 10. There the parties marked the bulk of their supplemental exhibits and filed them with the Special Master. On August 31 they prefiled with the Special Master all of the supplemental testimony of their direct cases in prepared form.

The supplemental hearings before me were held at the United States Courthouse in Vicksburg, Mississippi, on Monday through Friday, September 12-16, 1994. The hearings generated a supplemental record of 1,396 pages of testimony by 12 expert and lay witnesses and 235 exhibits.[9] Also, on September 15, accompanied by all counsel, I took another view of the Disputed Area, this time by automobile since the river was down to a stage of about ten feet above ordinary low water on the Vicksburg gage. At the conclusion of the supplemental hearings, counsel for the parties made closing arguments. The parties filed post-trial memoranda on October 13, with oral argument by telephone later that day, and filed additional memoranda on October 14 and 19. They submitted the case for decision upon the evidentiary record made in *Houston v. Thomas* before Judge Barbour and the supplemental evidentiary record made before me. *See* Appendix C for a listing of the contents of the combined evidentiary record. *See also* Appendix D for a listing of the successive

[9] The testimony and exhibits of E.C. Burkhardt, a supplemental witness for the Mississippi Parties, were received through a videotaped deposition and accompanying transcript (Exhs. P-SE-51A and P-SE-51).

maps, mosaics and aerial photographs of record showing Stack Island from 1879 to the present.

At all times counsel for the parties have worked diligently to bring this protracted boundary and title dispute to an early submission to this Court. I am much in debt for the courteous and thoroughly professional help given me by all counsel and also by all the very able expert witnesses who testified at the supplemental hearings.

C. The Issues in This Action.

The issues to be decided are:

(1) What is the location of the Louisiana-Mississippi State boundary along the Mississippi River in the vicinity of the Disputed Area?

(2) Should the Houston Group's claim of title to the Disputed Area be cancelled and held for naught, as against the State of Louisiana?

II. RECOMMENDATIONS

RECOMMENDATION A: The Louisiana-Mississippi State boundary along the Mississippi River between North Latitude 32° 49' 25" and North Latitude 32° 44' lies along the Austin Smith Line as defined by the latitude-longitude calls set forth in Appendix A to this Report.

The legal principles that govern the resolution of the boundary dispute in this case are well established. In all four of the prior cases that have involved the Mississippi River boundary between the States of Louisiana and Mississippi, all titled *Louisiana v. Mississippi*, this Court has

applied the Rule of the Thalweg. *See Louisiana v. Mississippi*, 466 U.S. 96 (1984); 384 U.S. 24 (1966), *reh'g denied*, 384 U.S. 958; 282 U.S. 458 (1931); and 202 U.S. 1 (1906). By that rule the river boundary between States lies along the main downstream navigational channel or thalweg and moves as that channel changes with the gradual processes of erosion and accretion. *See id.*, 466 U.S. at 100. That channel thus carries the name of "live thalweg." *See id.* To that general Rule of the Thalweg there is an Island Exception that is specifically applicable here. If there is a divided river flow around an island, the boundary thalweg once established on one side of the island remains on that side even though the main downstream navigation channel shifts, however gradually, to the other side of the island. *See Indiana v. Kentucky*, 136 U.S. 479, 508-09 (1890) (applying Island Exception to established boundary differing from live thalweg); *Missouri v. Kentucky*, 78 U.S. 395, 401 (1870). The obvious purpose of the Island Exception is to avoid disturbing a State's sovereignty over an island as a result of what may be repeated shifts in the main navigation channel. *Id.* The boundary channel or thalweg that becomes "frozen" on one side of the island by application of the Island Exception is still ambulatory in that the State boundary thereafter moves to whatever extent the boundary channel moves on that side of the island. *See Arkansas v. Tennessee*, 397 U.S. 88, 90 (1970); *Arkansas v. Tennessee*, 246 U.S. 158, 175 (1918). That movement of the State boundary ceases, however, when and if water no longer flows along the boundary thalweg. *Id.* At that time the state boundary becomes fixed along what has become a "dead" thalweg.

A river island is physically subject to erosion that reduces its size and to accretion that increases its size, and the combination of those natural forces can over time work physical changes in both the area and the location of the island. A State's sovereignty over an island extends to accretions to the island. *See, e.g., Hogue v. Stricker Land & Timber Co.*, 69 F.2d 167, 168-69 (5th Cir. 1934), *on reh'g*, 70 F.2d 722 (5th Cir.), *cert. denied*, 293 U.S. 591 (1934) (Louisiana-Mississippi boundary fixed as between private parties). Provided that an island maintains a continuous existence, a State's sovereignty over it remains undisturbed as it changes in size and location as a result of accretion net of erosion. *Id.*

Determining the answer to the boundary question in this action requires an examination of both the prior and the subsequent history of the Stack Island that the U.S. General Land Office surveyed for patenting in 1881. The island's history, both before and after 1881, can be charted with confidence from the numerous maps and other documentary evidence in the record. A map dated 1765 shows an island at the Stack Island location. The island, later designated Island No. 94, reportedly washed away overnight in the great New Madrid earthquake of 1811, but within a few years willows were growing on the reforming island. The 1826-27 land survey of what is now Mississippi's Issaquena County (Exh. P-1) included Stack Island, while a similar survey two years later of what is now Louisiana's East Carroll Parish (Exh. P-2) did not include it. Charts and navigational publications from then until the 1881 patent survey of Stack Island are consistent with the continued existence of Stack Island as a land mass throughout the period. *See, e.g.*, Exhs. LA-

SE-6; LA-SE-110; P-SE-6. The island's long-term continuity, moreover, is confirmed by the presence there in 1881 of large trees, including a cottonwood with a 40-inch diameter, which E.C. Burkhardt, a professional forester, testified made it 60 to 70 years old at that time. *See* Exh. P-SE-51 (Burkhardt dep.) at 30-32; Exh. 2 to Burkhardt dep. at 5.

The best evidence places the main downstream navigation channel, and therefore the State boundary, on the west side of Stack Island throughout its history into the 1870s. Maps of 1867 and 1874 show a sandbar connecting Stack Island to the Mississippi bank. *See* Exhs. LA-SE-3; LA-SE-5. From those maps experts testifying for the State of Louisiana at the supplemental hearings concluded that the 1881 Stack Island had then only recently separated from the Mississippi shore. In any event, the Louisiana experts now acknowledge that the 1881 Stack Island had formed within the State of Mississippi. *See, e.g.*, 3 Sup. Tr. 313-15 (Easterly cross-exam.). Consistent with that view, the 1881 survey by the U.S. General Land Office showed Stack Island as a part of the State of Mississippi (Exh. P-7), and the island was patented in 1888 to Stephen B. Blackwell as land located in Issaquena County, Mississippi (Exh. P-41).

Houston v. Thomas was tried both before Judge Barbour and on appeal to the Fifth Circuit on the assumption that the location of the main navigation channel in 1881 (i.e., before the 1882-83 construction of dikes reinforced the channel to the west of Stack Island) was the critical issue in determining which State had sovereignty over Stack Island. Judge Barbour found that the 1881 main navigation channel lay to the west of the island and

consequently held for the Mississippi Parties. The Fifth Circuit held that the trial court's finding as to the location of the 1881 main channel was clearly erroneous and substituted its own finding that the main channel (and boundary thalweg) lay to the east, thereby holding for the State of Louisiana. *See Houston v. Thomas*, 937 F.2d at 251-52.

In truth, as the parties now recognize, which State had sovereignty over the 1881 Stack Island was established at the time of the statehood of Louisiana (1812) or Mississippi (1817) if the island was in existence on either date and, if not, at the time thereafter when the island formed. If the Mississippi Parties are correct that Stack Island formed at least 60 years prior to 1881, the maps and other evidence show that the established boundary thalweg lay to the west, thus putting Stack Island in Mississippi. If the State of Louisiana is correct in its present view that Stack Island had newly separated from the Mississippi shore in the late 1870s, the pre-existing main navigation channel by definition lay to the west of the land formation that constituted Stack Island, which would on separation continue to be in Mississippi; in other words, once Mississippi land, always Mississippi land. Thus, it is now apparent that the location of the 1881 main downstream navigation channel is a non-issue. On whichever side of the island the main channel ran at the time of the patent survey, the boundary thalweg lay on the west side, making the Stack Island surveyed in 1881 a part of the State of Mississippi.

Given the Louisiana experts' recognition that the 1881 Stack Island was Mississippi territory, the location of the State boundary in the vicinity of the Disputed Area is

now seen to depend on the answer to a single question of fact: Is the Disputed Area of today the result of the progressive transformation of Stack Island from its 1881 location and area to its present location and area by the natural river forces of accretion and erosion? That identity question was the subject of extensive expert and lay testimony and many map and documentary exhibits in the hearings before Judge Barbour. On the basis of that extensive record, Judge Barbour found as a fact that the Disputed Area is indeed the present-day form of the 1881 Stack Island as progressively changed by the processes of accretion and erosion, stating:

> It is clear from the Louisiana exhibits themselves, LA-21, 27, and 29, that there has always been a land mass from 1881 to the present time which map by map can be traced from the original Stack Island. It is interesting to note that this very active stretch of the river between 1881 and the present eroded the west bank of the river in the Lake Providence area by up to a mile and that it from time to time has placed and removed not only substantial sand bars but whole islands. Throughout this time period, however, substantial remnants of the original Stack Island have existed. In fact, Stack Island started out as some 700 acres[10]. According to one survey it grew to a substantial but undetermined acreage. It reduced and then in the 1970s it was back up in the range of 4,000 acres. At the present time the land mass claimed by the [Houston Group] is of approximately 2,000 acres. During all of this time, however, some

[10] Apparently a transcription error. The area of Stack Island when surveyed in 1881 was 117.96 acres.

> portion of Stack Island has remained above the low water mark and can be traced to an earlier map.

Barbour Bench Opn. at 16-17. Although the Fifth Circuit on appeal disagreed with Judge Barbour on the question of the location of the main navigation channel in 1881 (a fact question that we now see was irrelevant), it did not disturb the trial judge's finding of fact on the identity question. *See Houston v. Thomas*, 937 F.2d 247.

With the benefit of the full record made in *Houston v. Thomas* and also the supplemental record of five days of testimony and a great many additional exhibits, I have independently come to the same conclusion as Judge Barbour. Contrary to the contention of the State of Louisiana, Stack Island at no time since 1881 has completely washed away. Rather, it has continuously maintained its identity while being gradually transformed in location and area into what we here call the Disputed Area. During that transformation process the boundary channel lying on the Louisiana side of Stack Island (which became a secondary channel when the main navigation channel in the period 1909 to 1913 shifted to the other side of Stack Island) moved southwestward toward the Louisiana bank until it ceased in about 1954 to carry a flow of water at the river's low water stage, permanently fixing the boundary between the two States at that location.

The history of Stack Island subsequent to 1881 is detailed in a large number of maps, mosaics and aerial photographs admitted in evidence in *Houston v. Thomas* and an equally large number of additional exhibits admitted in the supplemental hearings, along with extensive testimony by experts from both sides interpreting the

exhibits. Austin B. Smith, the Mississippi Parties' expert in potamology and boundary determination, who testified in both *Houston v. Thomas* and before me, has had personal knowledge of Stack Island, and what we in this litigation call the Disputed Area, since 1928. His expert opinion, on the basis of the map evidence from the earliest mapping of Stack Island through 1954 and beyond, as well as his own personal knowledge since 1928, is that Stack Island has maintained its identity continuously since before 1881, having been transformed by accretion and erosion into what is now the Disputed Area affixed to the Louisiana bank. *See, e.g.*, transcript of the trial in *Houston v. Thomas* (hereafter "Tr.") at 361-63, 391-92 (A. Smith test.); Exhs. P-37A-1, P-37B-1; Exh. P-PT-2 (A. Smith prep. test.) at 5-8. He pointed out – and a Louisiana expert confirmed on cross-examination – that when maps of the Lake Providence Reach starting with the 1881 patent survey and coming down to the present era are overlaid on one another in chronological order, each successive map is seen to show a land mass covering a significant portion of the Stack Island shown on the next preceding map. *See* Exh. P-SE-50; 3 Sup. Tr. 139-76 (Winkley cross-exam.). Mr. Smith denied that the processes of accretion and erosion that changed the location and area of the 1881 Stack Island had at any time washed the island away. *See* Tr. 339 (A. Smith test.); Exh. P-PT-2 (A. Smith prep. test.) at 7-8.

At the hearings both before Judge Barbour and before me, the State of Louisiana presented expert testimony in an attempt to prove from the historical data that Stack Island did completely wash away on at least one occasion since 1881. The late Hatley N. Harrison, Jr., an expert in

the fields of potamology, civil engineering and boundary surveys, and Dr. Ernest S. Easterly, III, an expert in alluvial geomorphology and political geography, testified before Judge Barbour for the State of Louisiana. Before me, Dr. Easterly again testified and the State of Louisiana presented two new expert witnesses, Brien R. Winkley, an expert in the fields of river engineering, geology, river hydrology and potamology, and Michael P. Mayeux, a professional land surveyor who is experienced in locating boundaries. In my judgment Louisiana's evidence falls short of proving that Stack Island ever completely washed away at any time since 1881.

As a result of an unexpected development during the supplemental hearings, the Louisiana experts focused particularly on April 1883 as the date of the elimination of Stack Island. They based their claim on a surprise exhibit purporting to be a Mississippi River Commission hydrographic map of Stack Island dated in that month. That exhibit (Exh. LA-SE-159-ORIG.) had not been prefiled and was not presented by Louisiana's counsel, but rather was volunteered by Mr. Winkley in the course of his cross-examination by Mississippi's counsel, he having been handed it at the noon recess by another Louisiana witness, Mr. Mayeux. Overlaid on the map is a solid green line labeled as the "present steamboat channel"; that green line is placed to run across the outline of the 1881 Stack Island shown also on the exhibit. Mr. Winkley interpreted that green line and the hydrographic data displayed on the map to mean that Stack Island had in April 1883 completely disappeared, with the navigation channel passing over the middle of where the island once had been. *See, e.g.*, 3 Sup. Tr. 178-82, 207-13 (Winkley

cross-exam.). Even assuming the authenticity of the surprise exhibit, however, it would appear that boats could pass close to Stack Island without all of the island having washed away; indeed, the map shows a navigation light on the west shore of the island. *See* 4 Sup. Tr. 144-58 (Mayeux cross-exam.); 5 Sup. Tr. 84-86 (A. Smith test.).

In addition, the authenticity of the original parchment map, the only such original presented in evidence in this case, is not beyond dispute. Apparently, no such map was ever published by the Mississippi River Commission, its purported sponsor. *See* 5 Sup. Tr. 176-79 (A. Smith test.). On the other hand, the Commission did publish a different map of Stack Island and its vicinity dated in that same month of April 1883. That published map of April 1883, a copy of which the Mississippi Parties prefiled in this action as Exhibit P-SE-23, shows Stack Island very much in existence. The supposed disappearance of Stack Island in April 1883 is further contradicted by the sworn testimony given on May 5, 1885, by Stephen B. Blackwell and two other witnesses that Blackwell and his family had lived on Stack Island continuously from April 2, 1882, to the date of the testimony and had 20 acres under cultivation. *See* Exh. P-SE-20. Still further, in November 1883 the Mississippi River Commission in reporting on its construction of dikes just north of Stack Island does not mention the supposed elimination of Stack Island, but on the contrary states that:

> this work showed good results, forcing the main channel of the river to the right of the island and building a bar to the head of Stack Island, as shown by the high-water survey of April 1883.

Exh. LA-18A at 425. In sum, there is no satisfactory proof that Stack Island completely washed away in April 1883. In fact, the only reliable evidence is to the contrary.

The Louisiana expert witnesses do not point to any other map that convincingly shows the disappearance of Stack Island since 1881. They, for example, identify 1948 as another year when they claim Stack Island completely washed away. 2 Sup. Tr. 262-68 (Winkley test.); 4 Sup. Tr. 158-67 (Mayeux cross exam.). No such dramatic occurrence, however, is reported by local observers living at that relatively recent time, and the alleged destruction of Stack Island in 1948 is rebutted by the fact that today, in 1994, there are growing on the high ridge area in the north portion of the Disputed Area (at a location occupied by the 1948 Stack Island) cottonwood trees of an age of 60 to 70 years. *See* Exh. P-PT-1 at 4 (Jarvis prep. test.); Exh. P-SE-51 (Burkhardt dep.) at 32. *See also* 4 Sup. Tr. 167 (Mayeux cross-exam.) (Stack Island five feet above "ordinary high-water mark" in 1949).

The Lake Providence Reach in which Stack Island is located has been regularly mapped at frequent intervals ever since the Mississippi River Commission in the early 1880s undertook the construction of dikes at the head of Stack Island as one of its first two projects for improving navigation on the river. Every available map shows the continued existence of Stack Island from before 1881 until accretion caused it to merge into the Louisiana bank in about 1954. Appendix D lists the numerous maps, mosaics and aerial photographs showing the Lake Providence Reach since 1879 that are contained in the voluminous record of this case. With the exception of one single exhibit dated 1970, all of the maps and mosaics, one after

the other, show a land mass that the mapmaker specifically identifies by name as Stack Island, even for the years since 1954 when that land mass has no longer been insular in form. Furthermore, the long-term use in the community of the name "Stack Island" to refer to what in this litigation we now call the Disputed Area,[11] *see, e.g.*, 1 Sup. Tr. 24 (J. Smith cross-exam.); 1 Sup. Tr. 74-75 (House cross-exam.), strongly confirms the conclusion that I find inescapable from examination of all of the maps, mosaics and aerials listed in Appendix D: Stack Island never washed away, and it now is the Disputed Area.

As one support for their claim that Stack Island at various times disappeared or washed away, Louisiana's experts at the supplemental hearings urged the use of a single demanding test for whether a river land formation maintains its status as an island. Mr. Winkley first testified that to be an island a land formation must be higher than the top bank of the river (2 Sup. Tr. 188-89; 266), and then later offered Mr. Mayeux's surveyor's test that the formation must be higher than mean, or ordinary, high water (3 Sup. Tr. 119-20; 239-40). *See also* Exh. LA-PT-2 at 16 (Easterly prep. test.) ("mean high water"). For the

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[11] A large island sometimes called Rabbit Island formed in the 1960s and 1970s on the Mississippi side of the river northeast of the Disputed Area. The earliest map in this record that labels that new island "Stack Island" is dated 1970. *See* Exh. LA-1. Many, but not all, subsequent maps label the new island "Stack Island," but without exception all subsequent maps in the record give the "Stack Island" name to the Disputed Area. *See, e.g.*, Exh. P-32 (1975 map labeling only the Disputed Area as "Stack Island"); Exh. P-SE-40 (1988 map labeling both the Disputed Area and the new island as "Stack Island").

purpose of analyzing this voluminous record I have assumed that Stack Island must satisfy the "mean high water test" in order to qualify as an island. Even when analyzed on that assumption, however, this record reveals no map or other evidence that convincingly establishes that for any significant period since 1881 Stack Island has been without some land that had an elevation above mean high water. *See, e.g.*, 2 Sup. Tr. 229, 243-44, 255-56 (Winkley test.) (no precise elevation data for Stack Island for 1908, 1925, 1946); *compare, e.g.*, 2 Sup. Tr. 262-63 (Winkley test.) (Stack Island below "ordinary high water" in 1948-49) *with* 4 Sup. Tr. 165-67 (Mayeux cross-exam.) (no precise elevation data for Stack Island for April-May 1948; Stack Island five feet above "ordinary high-water mark" in 1949).

Furthermore, for the purposes of applying the Island Exception and of tracing real estate title from the 1881 Stack Island to the Disputed Area, a single mean high water test should not, in my judgment, be used mechanically or exclusively. A broader, more practical test is one that focuses on the degree of permanence of the river land formation. Stack Island's elevation in relation to mean high water is but one measure of its permanence, along with other factors such as its ability to sustain substantial vegetation and its dryness for much of the year. The fact that Stack Island on occasions has been flooded and from time to time has suffered erosion on its margins does not detract from its basic permanence and continuity, which mapmakers, river navigators and the local community have steadily recognized since the 1820s. *See* Appendix D. Failure to recognize Stack Island

as an "island" for purposes of the Island Exception, moreover, would fly in the face of the policy favoring certainty and stability that underpins the rule. Were Stack Island not classified as an "island," State sovereignty over this continuously existing land mass would change with every shift in the main navigation channel from one side to the other. *City of St. Louis v. Rutz*, 138 U.S. 226 (1891), does not teach anything to the contrary. By no means can Stack Island, which has continuously existed for at least 170 years, be called "a mere moving mass of alluvial deposits." *Id.* at 251 (*quoting Carrick v. Lamar*, 116 U.S. 423, 425 (1886)). By any practical test Stack Island has continuously qualified as an island for purposes of applying the Island Exception, and no convincing evidence exists in this record that use of a mean high water test requires a different result.

At the outset of his testimony, Mr. Winkley gave a highly informative illustrated lecture on the science of potamology, both generally and specifically as applied to the Lake Providence Reach. He testified that river islands and bars cyclically appear and disappear at about the same locations, suggesting that it was unlikely that Stack Island would survive the natural life-and-death pattern of land formations in the river. *See, e.g.*, Exh. LA-PT-1 (Winkley prep. test.) at 5-7; 2 Sup. Tr. 228-32 (Winkley test.). His expert opinion as to what *might* or even *should* have happened to Stack Island, however, cannot overcome what *did* happen to Stack Island as shown uninterruptedly by the succession of maps through the years from 1881 until beyond the time when water ceased to flow between the tranformed Stack Island and the Louisiana shore. *See* Appendix D.

In his prepared testimony Mr. Winkley also stated his opinion that it was impossible for Stack Island to "migrate" to the Louisiana side of the river, giving as his reason that "Stack Island could not have possibly . . . migrated across an active channel[.]" Exh. LA-PT-1 at 35 (Winkley prep. test.). From Mr. Smith's testimony and the map evidence, however, I do not understand that the changes produced by accretion and erosion in the location and area of Stack Island involved any crossing of an active channel. Rather, the accretions to the west and south sides of Stack Island pressed the boundary channel westward until it silted up and no longer carried water. At all times during this process the main navigation channel of the Mississippi River remained well to the east of Stack Island, where it had shifted in the period 1909 to 1913. *See* Exhs. LA-SE-12 through LA-SE-23.

A final question remains: Is the whole Disputed Area derived from the Stack Island surveyed in 1881? I conclude that the answer is in the affirmative. From time to time in the 1930s and 1940s, maps of the Lake Providence Reach displayed one or more sandbar features of varying configurations at the toe of Stack Island to the north. Well before 1954, when the boundary thalweg west of Stack Island dried up, those sandbar features had merged into Stack Island as accretions to its southern end. *See, e.g.*, Exhs. LA-27, LA-SE-21 (maps of 1950). Mr. Smith testified at length on the nature of the sandbars and on whether they had formed on the Mississippi or Louisiana side of the boundary thalweg. He stated, and illustrated by his exhibits, his expert opinion that the boundary thalweg ran down the west side of Stack Island and continued on down along the Louisiana bank to a point below the

sandbars where the boundary thalweg met the main navigation channel; in other words, on the west of the sandbars forming at the toe of Stack Island. *See* Exhs. P-17 through 26; P-33 through 35. He explained that the sandbars and the later accretion to Stack Island resulted from the confluence flow around the island. *See, e.g.*, Tr. 328-89 (A. Smith test.). Thus, it was Mr. Smith's opinion that the sandbars formed in Mississippi and were Mississippi territory both then and later when they accreted to Stack Island. At the supplemental hearings, Mr. Smith repeated his analysis, explaining that the growth of Stack Island downstream represented "progressive formation of confluence flow accretion as a result of the bifurcated flow of the Mississippi River at Stack Island." *See* Exh. P-PT-2 at 8. Before me, the State of Louisiana presented no evidence to the contrary, satisfying itself with claiming that Stack Island had not enjoyed a continuous existence and that there was never any frozen boundary thalweg west of Stack Island. Louisiana presented no evidence that the point of confluence between the boundary thalweg and the main navigation channel was anywhere other than at a point downriver from the sandbars accreted to Stack Island. When the Louisiana-Mississippi boundary became fixed in about 1954, it was established along the entire west bound of Stack Island as it then existed, including all prior accretions to the southern end.[12] On the full

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[12] On the basis of the record in *Houston v. Thomas*, Judge Barbour reached the same factual conclusion. Barbour Bench Opn. at 19-21. He stated:

> It appears logical to the Court that the formations south of what might be called Stack Island proper were accretions caused by the flow around that island, and that until they actually attached to the island they were sand bars and were not permanent land masses. The only thing to the contrary is the testimony of Mr. Harrison who claimed them to be islands. This claim, however, was made on the basis of the charts, which were navigation charts which clearly called those formations sand bars. The Court, accordingly, concludes that the entire land mass claimed by the Plaintiff is Stack Island and accretions thereto including the southerly end of it which runs down past the Port Commission.

Id. at 21.

record, I find that the entire Disputed Area lies to the east of the State boundary.

Having thus determined *what* is the Louisiana-Mississippi State boundary in the vicinity of the Disputed Area, it remains to determine *where* that boundary is located on the face of the earth. Prior to the filing of the complaint in *Houston v. Thomas* in 1986, Mr. Smith identified what he believed to be the location of the boundary thalweg at the time that he found it ceased to carry flowing water. *See* Complaint, *Houston v. Thomas* ¶ 52. In his 1989 decision Judge Barbour approved the Austin Smith Line as the State boundary, and nothing in the supplemental hearings leads me to recommend rejection of that line. The State of Louisiana does not present any affirmative evidence on the subject, and its demonstration on cross-examination of the fact that Mr. Smith sponsored a somewhat different boundary line in the *Gypsum* litigation (*see* note 3 above) commenced 13 years earlier does not necessarily impeach the accuracy of his later effort. *See* 5 Sup. Tr. 108-10 (A. Smith cross-exam.); Exh. LA-SE-142. Mr. Smith explained that in the earlier case he

had relied upon the findings of another land surveyor for placing the boundary on the face of the earth, whereas he had made his own determination for *Houston v. Thomas*. *See* 5 Sup. Tr. 104-06, 110 (A. Smith cross-exam.). On this record I conclude that Mr. Smith, in laying out the Austin Smith Line as the Louisiana-Mississippi State boundary, did as precise and expert a job as the circumstances permit. I therefore recommend that the Court declare that the Louisiana-Mississippi State boundary along the Mississippi River between the latitudes of Mr. Smith's Points 1 and 22 (*see* Appendix A) is located as he determined.

RECOMMENDATION B: The Court should deny the prayer of the State of Louisiana to cancel and forever hold for naught the Houston Group's claim of title to the Disputed Area.

In its Complaint the State of Louisiana asks this Court to cancel the Houston Group's claim of title to the Disputed Area. Louisiana grounds this prayer for relief on its fundamental premise that the Disputed Area quite simply is not "Stack Island" because the island or islands deeded in 1888 and in 1934 to the Houston Group's predecessors-in-title have since completely washed away. Having concluded as a fact that Stack Island has indeed maintained its identity continuously since 1881 and been transformed in area and location into the present Disputed Area, I correspondingly recommend denial of Louisiana's prayer for cancellation of the Houston Group's claim of title.

By my recommendation on the boundary issue the Disputed Area is located within Mississippi, and therefore the State of Louisiana by its prayer for relief against the Houston Group seeks to cancel a claim to Mississippi land. The State of Louisiana puts forth three alternative arguments under Mississippi law for cancelling the Houston Group's claim:

> 1. The 1888 patent to Stephen B. Blackwell was void *ab initio* because Mississippi riparian landowners, and not the United States, owned Stack Island.
>
> 2. Under Mississippi law, the 1934 tax foreclosure deed to the Houston Group's predecessor suffered from a fatally inadequate description.
>
> 3. Under Mississippi law, record title to some or all of the southern accretions to Stack Island rests in Mississippi riparian landowners, not in the Houston Group.

These collateral challenges suffer from a common, fatal flaw: The State of Louisiana lacks standing to assert them. Itself a stranger to the title, the State of Louisiana seeks to cancel the Houston Group's claim on the strength of the alleged paramount title of some unidentified third party or parties. This the State is in no position to do. *See, e.g., St. Louis Smelting & Refining Co. v. Kemp*, 104 U.S. 636, 647 (1881) ("[i]t does not lie in the mouth of a stranger to the title to complain of the act of the government with respect to it"); *Raypath, Inc. v. City of Anchorage*, 544 F.2d 1019, 1021 (9th Cir. 1976) ("[a]s a matter of federal law, it is well established that the validity of a deed or patent from the federal government

may not be questioned in a suit brought by a third party against the grantee or patentee").

This Court need go no further to dispose of the title question in this action. Nonetheless, in view of the fact that these attacks on the Houston Group's claim of title are pressed by a sovereign State, I will quickly outline why they lack merit in any event.

First, Louisiana claims that Stack Island when surveyed in 1881 was not in the federal public domain because it had not formed in Mississippi until after Mississippi's statehood in 1817. Under Mississippi law, Louisiana therefore reasons, the island became the property of Mississippi riparians, and the United States owned nothing that it later could convey. This challenge should be rejected both on the ground that federal land patents enjoy a presumption of validity, *see, e.g., Kemp*, 104 U.S. at 645 (Land Department's determination of fact upon which its authority to issue patent depends is conclusive against any collateral attack), and on the ground that the attack, which comes 106 years after the issuance of the patent and 177 years after Mississippi statehood, is time-barred on a laches principle,[13] *see, e.g., Wetzel v. Minnesota Ry. Transfer Co.*, 169 U.S. 237, 241 (1898) (noting, in barring challenge to validity of patent transfer after 30-year lapse, that "interests of public order and tranquillity demand that parties shall acquaint themselves with their

[13] On October 3, 1994, the Court granted the motion of the Houston Group to file a supplemental answer to assert as an affirmative defense that the State of Louisiana's challenge to the validity of the 1888 patent was time-barred. *See* 63 U.S.L.W. 3256 (Oct. 4, 1994).

rights within a reasonable time"); *United States v. Marshall Silver Mining Co.*, 129 U.S. 579, 588 (1889) (alternative holding that United States barred by laches from challenging validity of patent issued in 1874).

Second, contrary to the contention of the State of Louisiana, the description in the 1934 tax foreclosure deed of the conveyed property as Stack Island, containing 1,000 acres and situated in Issaquena County, Mississippi, with a handwritten notation that the property was approved for reconveyance to its former owner (Exh. P-46), is legally adequate to identify what had been foreclosed upon and what was being conveyed back to the delinquent taxpayer. Despite reference to an allegedly nonexistent Section 27, and despite the fact that the island through erosion and accretion had moved off its original township calls, anyone could have located this particular Mississippi River island with certainty. *See, e.g., Wilson v. Clark*, 278 So.2d 250, 254 (Miss. 1973) ("[o]ne of the essentials of a valid deed is a description sufficient to identify the object upon which the deed is to operate"); *Seal v. Anderson*, 108 So.2d 864, 866 (Miss. 1959) (description of nonexistent "Township 10," rather than true "Township 10 North," adequate to convey title when accompanied by identification of county in which land located).

Finally, the State of Louisiana correctly states that under Mississippi law lengthwise accretions to Stack Island belong to Mississippi riparians to the extent that those accretions cross the riparians' extended property lines. *See, e.g., Houston v. United States Gypsum Co.*, 569 F.2d at 883-84, *on reh'g*, 580 F.2d at 818. In fact, in the cited case the court applied the Mississippi rule specifically to

the southern portion of Stack Island, as against the Houstons and in favor of U.S. Gypsum, a substantial riparian landowner on the Mississippi bank below the 1881 location of Stack Island. *See* note 3 above. On remand, however, the trial court found that the Houstons had acquired title to the southern portion of Stack Island by adverse possession – a holding that was affirmed on appeal. *See Gypsum*, 652 F.2d at 467. The State of Louisiana does not identify any potential Mississippi riparian claimants to Stack Island other than U.S. Gypsum, and none has appeared here. In any event, the State of Louisiana cannot assert the claim of any such hypothetical litigant.

The State of Louisiana has shown no basis for the Court, at its behest, to cancel the Houston Group's claim of title to the Mississippi land in dispute in this action.

III. CONCLUSION

The Boundary Question. The Disputed Area represents the present configuration and location of the Stack Island that was surveyed by the United States in 1881 and patented to Stephen B. Blackwell in 1888. Stack Island was then Mississippi territory, and it has continued to exist as Mississippi territory at all times while accretion and erosion have caused the island to change in size and to move gradually toward the Louisiana bank. The Louisiana-Mississippi State line on the west of the "transformed" Stack Island is fixed at the location of the boundary thalweg when it ceased to carry a flow of water at the ordinary low water stage in about 1954. This record

satisfactorily establishes that the Austin Smith Line described by latitude-longitude calls in Appendix A defines the location on the face of the earth of that State boundary as so fixed.

The Title Question. Once it is determined that the Disputed Area lies within Mississippi, the State of Louisiana fails to establish any ground whatever for this Court, at Louisiana's behest, to cancel the Houston Group's claim of title to that Mississippi land. The State of Louisiana's prayer should be denied.

A proposed Decree embodying my recommendations is attached as Appendix E.

Respectfully submitted,

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Special Master
One Monument Square
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October 24, 1994

APPENDIX A

Description of the "Austin Smith Line," claimed by the Mississippi Parties to be the Louisiana-Mississippi State Boundary (Points being those shown on Exhibits P-32D and LA-1A):

Beginning at Pt. 1 at North Latitude 32° 49' 25" and West Longitude 91° 09' 27"; thence to Pt. 2, Latitude 32° 49' and Longitude 91° 09' 34"; thence to Pt. 3, Latitude 32° 48' 47" and Longitude 91° 09' 37"; thence to Pt. 4, Latitude 32° 48' 30" and Longitude 91° 09' 39"; thence to Pt. 5, Latitude 32° 48' and Longitude 91° 09' 47"; thence to Pt. 6, Latitude 32° 47' 18" and Longitude 91° 09' 51"; thence to Pt. 7, Latitude 32° 47' 6" and Longitude 91° 09' 54"; thence to Pt. 8, Latitude 32° 47' and Longitude 91° 09' 59"; thence to Pt. 9 Latitude 32° 46' 50" and Longitude 91° 10' 7"; thence Pt. 10, Latitude 32° 46' 35" and Longitude 91° 10' 14"; thence to Pt. 11, Latitude 32° 46' 20" and Longitude 91° 10' 16"; thence to Pt. 12, Latitude 32° 46' and Longitude 91° 10' 18"; thence to Pt. 13, Latitude 32° 45' 45" and Longitude 91° 10' 20"; thence to Pt. 14, Latitude 32° 45' 30" and Longitude 91° 10' 18"; thence to Pt. 15, Latitude 32° 45' 15" and Longitude 91° 10' 12"; thence to Pt. 16, Latitude 32° 45' and Longitude 91° 10' 01"; thence to Pt. 17, Latitude 32° 44' 45" and Longitude 91° 09' 49"; thence to Pt. 18, Latitude 32° 44' 30" and Longitude 91° 09' 38"; thence to Pt. 19, Latitude 32° 44' 23" and Longitude 91° 09' 30"; thence to Pt. 20, Latitude 32° 44' 15" and Longitude 91° 09' 18"; thence to Pt. 21, Latitude 32° 44' 07" and Longitude 91° 09'; thence to Pt. 22, Latitude 32° 44' and Longitude 91° 08' 44".

See also Paragraph 5 of Mississippi's Counterclaim and Exhibit P-32E.

APPENDIX B

Description of the "Hatley Harrison Line," previously claimed by the State of Louisiana in *Houston v. Thomas* to be the Louisiana-Mississippi State Boundary (Points being those shown on Exhibits LA-1A and LA-32F-1):

> Beginning at Pt. A at North Latitude 32° 51' 09."06 and West Longitude 91° 07' 03."03; thence to Pt. B, Latitude 32° 49' 35."34 and Longitude 91° 07' 39."01; thence to Pt. C, Latitude 32° 49' 23."38 and Longitude 91° 07' 44."47; thence to Pt. D, Latitude 32° 49' 12."81 and Longitude 91° 07' 51."07; thence to Pt. E, Latitude 32° 48' 40."09 and Longitude 91° 08' 30."81; thence to Pt. F, Latitude 32° 48' 32."28 and Longitude 91° 08' 40."89; thence to Pt. G, Latitude 32° 48' 20."52 and Longitude 91° 08' 52."19; thence to Pt. H, Latitude 32° 47' 41."28 and Longitude 91° 09' 24."40.

At the conclusion of the supplemental hearings in this original jurisdiction action, counsel for the State of Louisiana stated that the State of Louisiana now contends that the Louisiana-Mississippi boundary in the vicinity of the Disputed Area lies along the live thalweg. *See* 5 Sup. Tr. 207 (Louisiana's Closing Arg.).

APPENDIX C

CONTENTS OF THE EVIDENTIARY RECORD IN THIS ACTION

By stipulation of the parties, the evidentiary record in this original jurisdiction action consists of the following:

1. The record of the hearings held on June 19-23 and October 2, 1989, before Judge Barbour in the Southern District of Mississippi in *Houston v. Thomas*, including the following:
   a. The 961-page transcript of the testimony of 24 witnesses;
   b. 122 exhibits offered by the Mississippi Parties identified as Exhibits P-1, *etc.*
   c. 52 exhibits offered by the State of Louisiana identified as Exhibits LA-1, *etc.*
   d. 35 exhibits identified as DLB-1, *etc.*, offered by the Board of Commissioners of the Fifth Louisiana Levee District, which is not a party in this original jurisdiction action.
2. The record of the supplemental hearings held before the Special Master on September 12-16, 1994, consisting of the following:
   a. Prepared testimony prefiled by 11 witnesses, totaling 138 pages. The prefiled testimony of the 9 witnesses for the State of Louisiana is identified as Exhibits LA-PT-1, *etc.*, and that of the two witnesses for the Mississippi Parties as Exhibits P*-PT-1 and P-PT-2.

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*Although the Mississippi Parties are defendants in this original jurisdiction action, their exhibits are for convenience identified by the same "P" prefix as was used for their plaintiffs' exhibits in *Houston v. Thomas*.

b. The videotaped deposition of an expert witness for the Mississippi Parties, the 70-page transcript being identified as Exhibit P*-SE-51, and the tape as Exhibit P*-SE-51A.

c. The 1,326-page transcript of the testimony of 11 witnesses at the supplemental hearings.

d. 172 exhibits offered by the State of Louisiana identified as Exhibits LA-SE-1, *etc.*

e. 63 exhibits offered by the Mississippi Parties identified as Exhibits P*-SE-1, *etc.*

APPENDIX D

HISTORICAL MAPS, MOSAICS AND AERIALS SHOWING STACK ISLAND FROM 1879 TO PRESENT

YEAR	EXHIBIT NUMBER*	MAP, MOSAIC OR AERIAL	STACK ISLAND IDENTIFIED?
1879	P-5; LA-SE-6	Suter U.S. Corps of Engineers survey	Yes
1879-80	LA-SE-7	Mississippi River Commission (MRC) survey map	Yes
Aug. 1881	P-7; P-SE-50	U.S. General Land Office Survey Plat, Island No. 94, Stack Island	Yes
Oct.-Nov., 1881	P-8; P-SE-50	MRC chart of Lake Providence Reach, Marshall's Shoreline Survey Oct & Nov 1881	Yes
1881 - 93	LA-SE-96	MRC Early Stream Channels Map, Sheet 68	Yes
April 1882	P-SE-21	April 1882 MRC hydrographic survey	Yes
Oct. 1882	P-SE-22	October 1882 MRC hydrographic survey	Yes
1882	P-13; P-SE-50; LA-10	MRC 1882 Survey Charts 43 and 44	Yes
April 1883	P-SE-23	April 1883 MRC hydrographic survey	Yes
April 1883	LA-SE-159-ORIG.	Parchment original of 1883 hydrographic map	Yes
Oct. 1883	LA-18A	October 31, 1883 MRC construction works, Lake Providence Reach	Yes
1884	P-15; LA-SE-8*	MRC 1884 Hydrographic Survey, Sheet II	Yes

*On the asterisked exhibits, Mr. Winkley superimposed the names "Providence Bar" and/or " Stack Island." See Exh. LA-PT-1 at 36 (Winkley prep. test.).

1884	LA-SE-9*	Thompson MRC survey, July 1884	Yes
1889	P-SE-24; LA-SE-10*	May 31, 1889 MRC survey	Yes
1894	P-16	MRC 1894 Hydrographic Survey Sheets 19-20	Yes
1895	LA-SE-135	MRC map of the Lake Providence Reach	Yes
1881 to 1907	LA-SE-134	MRC map of the Lake Providence Reach	Yes
1901	LA-14	Sketch of Lake Providence Reach, 1901	Yes
1901-02	LA-SE-11	Potter map	Yes
1907	LA-15	Stack Island Chute - 2 plats, May and Dec., 1907	Yes
1907	LA-37A-1	Survey of Islands Claimed by Fifth Louisiana Levee District, 1907	No[1]
1908-09	P-17; P-SE-50; LA-SE-136	MRC 1908-1909 Bank and Bar Line Survey of Shipland Pt. Plantation	Yes
1909	LA-16A	Lake Providence Quad Edition 1909	Yes
1911	LA-16	Lake Providence Quad Edition 1911	Yes
1913-15	P-18; P-SE-50; LA-17; LA-SE-12*	MRC 1913-1915 Hydrographic Survey, Chart 45	Yes
1925	P-19; P-SE-50; LA-18; LA-SE-13*	MRC 1925 Hydrographic Survey, Field Sheets 80, 81	Yes
1930	P-20; P-SE-50; LA-19; LA-SE-137	U.S. Corps 1930 Low Water Survey of River, Sheets 66 & 69	Yes
1930-32	LA-SE-96	MRC Early Stream Channels Map, Sheet 8	Yes

[1]No land mass at the location of Stack Island is shown on this map.

1932	P-27	U.S. Corps 1932 Mosaic	Yes
1933	P-21; LA-SE-14*	U.S. Corps 1933 Hydrographic Survey	Yes
1934	LA-20	Flood Control & Navigation Map	Yes
1935	P-22; LA-SE-15*	U.S. Corps 1935 Hydrographic Survey	Yes
1935 1936	LA-21	Flood Control & Navigation Maps	Yes
1936	P-23; LA-SE-16*	U.S. Corps 1936 Hydrographic Survey	Yes
1937	P-24; P-SE-50; LA-22A; LA-SE-146	U.S. Corps 1937 Hydrographic Survey	Yes
1938	P-25	U.S. Corps 1938 Hydrographic Survey	Yes
1938	P-28	U.S. Corps 1938 Mosaic	Yes
1938 1939	LA-21	Flood Control & Navigation Maps	Yes
1939	LA-SE-17*	1939 Vicksburg (VXB) District Survey	Yes
1940	P-26	U.S. Corps 1940 Hydrographic Survey	Yes
1940 1941	LA-21	Flood Control & Navigation Maps	Yes
1941	P-29	U.S. Corps 1941 Mosaic	Yes
1942	LA-SE-18*	1942 VXB District Survey	Yes
1942 1943 1946	LA-21	Flood Control & Navigation Maps	Yes
1946	LA-SE-19*	1946 VXB District Survey	Yes

1947	LA-21	Flood Control & Navigation Map	Yes
1948	LA-SE-20*	1948 VXB District Survey	Yes
1948	LA-SE-148	1948 U.S. Corps Survey	Yes
1948 1949	LA-21	Flood Control & Navigation Maps	Yes
1949	P-SE-50; LA-23; LA-SE-147	1949 MRC Hydrographic Survey	Yes
1950	LA-SE-21*	1950 VXB District Survey	Yes
1950 1951 1952	LA-27	Flood Control & Navigation Maps	Yes
1952	LA-SE-22*	1952 VXB District Survey	Yes
1953 1954	LA-27	Flood Control & Navigation Maps	Yes
1955	P-30	U.S. Corps 1955 Mosaic	Yes
1955	P-SE-39	1955 Aerial Photograph, Disputed Area	N.A.
1955 1956	LA-27	Flood Control & Navigation Maps	Yes
1957	LA-27; LA-27A	Flood Control & Navigation Map	Yes
1958	LA-SE-23*	1958 VXB District Survey	Yes
1958 1959 1960 1961	LA-27	Flood Control & Navigation Maps	Yes
1962	LA-SE-24*	1962 VXB District Survey	Yes
1962 1963	LA-29	Flood Control & Navigation Maps	Yes

1962-1964	P-31; P-SE-50 LA-27B	U.S. Corps 1962-1964 Hydrographic Survey	Yes
1964 1965	LA-29	Flood Control & Navigation Maps	Yes
1965	P-SE-25	1965 Aerial Photograph, Disputed Area	N.A.
1966 1967	LA-29	Flood Control & Navigation Maps	Yes
1967	LA-SE-25*	1967 VXB District Survey	Yes
1968 1969 1970	LA-29	Flood Control & Navigation Maps	Yes
1970	LA-SE-26*	1970 VXB District Survey	Yes
1970	LA-1	Vicinity Map Composite of USGS 1970 Edition Quadrangles on which is imposed 1881 location of Stack Island	No[2]
1971	LA-29	Flood Control & Navigation Map	Yes
1975	P-32; P-SE-50; LA-30	U.S. Corps 1975 Hydrographic Survey	Yes
1975	LA-SE-27*	1975 VXB District Survey	Yes
1975	P-SE-27	1975 Aerial Photograph, Disputed Area	N.A.
1976	LA-31	Flood Control and Navigation Map	Yes
1983	LA-31; LA-SE-29*	Flood Control and Navigation Map	Yes
1985 1986	LA-31	Flood Control & Navigation Maps	Yes

[2]A land mass that formed in the 1960s to the northeast of the Disputed Area is here labelled "Stack Island."

1987	LA-32	Flood Control & Navigation Map	Yes
1988	LA-31; LA-32A	Flood Control & Navigation Map	Yes
1988	LA-32D	Hydrographic Survey - January 1988 - Sheets 1-3	Yes
1988	P-SE-29	1988 Aerial Photograph, Disputed Area	N.A.
1988-1989	P-SE-40; P-SE-50	1988-89 Mississippi River Hydrographic Survey	Yes
1991	P-SE-30	1991 Aerial Photograph, Disputed Area	N.A.
1992	LA-SE-30*	1992 MRC Navigation Map	Yes
1993	LA-SE-28*	1993 VXB District Survey	Yes
1994	LA-SE-31*	1994 VXB District Survey	Yes
1994	P-SE-31 A-E	1994 Aerial photographs, Disputed Area	N.A.
1994	P-SE-41 A-H P-SE-42 A-J	1994 Low-level aerial photographs, Disputed Area	N.A.

APPENDIX E

PROPOSED DECREE

STATE OF LOUISIANA v. STATE OF MISSISSIPPI, *et al.*

No. 121, Original

Decided _____ Decree Entered _____

Decree carrying into effect this Court's opinion of ___, ___ U.S. ___ (199___).

DECREE

This cause having come on to be heard on the Report of the Special Master heretofore appointed by the Court, and the exceptions filed thereto, and having been argued by counsel for the several parties, and this Court having stated its conclusions in its opinion announced on ___, ___ U.S. ___, and having considered the positions of the respective parties as to the terms of the decree, IT IS HEREBY ORDERED, ADJUDGED, AND DECREED AS FOLLOWS:

1. The boundary between the State of Louisiana and the State of Mississippi along the Mississippi River between North Latitude 32° 49' 25" and North Latitude 32° 44' lies along the line described as follows:

> Beginning at Pt. 1 at North Latitude 32° 49' 25" and West Longitude 91° 09' 27"; thence to Pt. 2, Latitude 32° 49' and Longitude 91° 09' 34"; thence to Pt. 3, Latitude 32° 49' 47" and Longitude 91° 09' 37"; thence to Pt. 4, Latitude 32° 48' 30" and Longitude 91° 09' 39"; thence to Pt. 5, Latitude 32° 48' and Longitude 91° 09' 47"; thence to Pt. 6, Latitude 32° 47' 18" and Longitude 91° 09' 51"; thence to Pt. 7, Latitude 32° 47'

6" and Longitude 91° 09' 54"; thence to Pt. 8, Latitude 32° 47' and Longitude 91° 09' 59"; thence to Pt. 9, Latitude 32° 46' 50" and Longitude 91° 10' 7"; thence Pt. 10, Latitude 32° 46' 35" and Longitude 91° 10' 14"; thence to Pt. 11, Latitude 32° 46' 20" and Longitude 91° 10' 16"; thence to Pt. 12, Latitude 32° 46' and Longitude 91° 10' 18"; thence to Pt. 13, Latitude 32° 45' 45" and Longitude 91° 10' 20"; thence to Pt. 14, Latitude 32° 45' 30" and Longitude 91° 10' 18"; thence to Pt. 15, Latitude 32° 45' 15" and Longitude 91° 10' 12"; thence to Pt. 16, Latitude 32° 45' and Longitude 91° 10' 01"; thence to Pt. 17, Latitude 32° 44' 45" and Longitude 91° 09' 49"; thence to Pt. 18, Latitude 32° 44' 30" and Longitude 91° 09' 38"; thence to Pt. 19, Latitude 32° 44' 23" and Longitude 91° 09' 30"; thence to Pt. 20, Latitude 32° 44' 15" and Longitude 91° 09' 18"; thence to Pt. 21, Latitude 32° 44' 07" and Longitude 91° 09'; thence to Pt. 22, Latitude 32° 44' and Longitude 91° 08' 44".

2. The State of Louisiana's prayer that the claim of title by defendants Julia Donelson Houston, *et al.*, in and to the lands and water bottoms lying between the Mississippi River on the east and the Louisiana-Mississippi boundary line as fixed in the preceding paragraph on the west be cancelled and forever held for naught is DENIED.

3. The Court retains jurisdiction to entertain such further proceedings, enter such orders and issue such writs as may from time to time be deemed necessary or advisable to give proper force and effect to this decree or to effectuate the rights of the parties in the premises.